

Opening Address: Panel on electrification of the African Continent

Mouhamadou Makhtar CISSÉ
Directeur Général

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Executive summary

Résumé analytique

Electricity is key to economic growth

- Africa is under-powered and under-developed

Africa faces obstacles to providing electricity

- Lack of financing and skills
- Long delays and indecision by policy-makers
- Risk aversion and weak credit of utilities

Opportunities in African electricity investment

- Increased foreign investment at attractive returns
- Demand for electricity is strong and growing
- Enormous renewable generation potential

Senegal is a successful example

- Growing and diversifying generation capacity
- National strategy implemented by effective political policies
- Aims for full electrification by 2025
- A proven IPP framework
- Renewables supported by thermal baseload
- Future generation with Senegalese gas

L'énergie est primordiale pour la croissance économique

- L'Afrique est sous-alimentée et sous-développée

L'Afrique fait face à des obstacles pour fournir de l'électricité

- *Le manque de financement et de compétences*
- *Les longs retards et indécision des politiciens*
- *L'aversion au risque et faible crédit des services publics*

Opportunités dans l'investissement en électricité en Afrique

- *Croissance d'investissements étrangers avec des rendements attrayants*
- *La demande d'électricité est forte et en croissance*
- *D'énormes potentiels en énergies renouvelables*

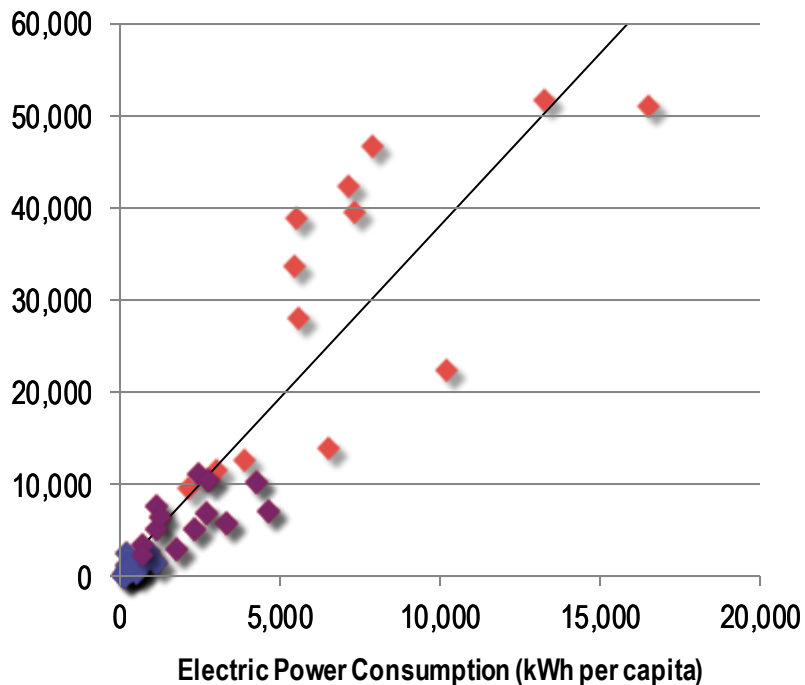
Le Sénégal est un exemple de succès

- *Capacité de production croissante et diversifiée*
- *Stratégie nationale mise en œuvre par des politiques efficaces*
- *Vise l'électrification intégrale d'ici 2025*
- *Un cadre IPP attesté*
- *Les énergies renouvelables soutenues par une production thermique de base*
- *Production future avec le gaz produit au Sénégal*

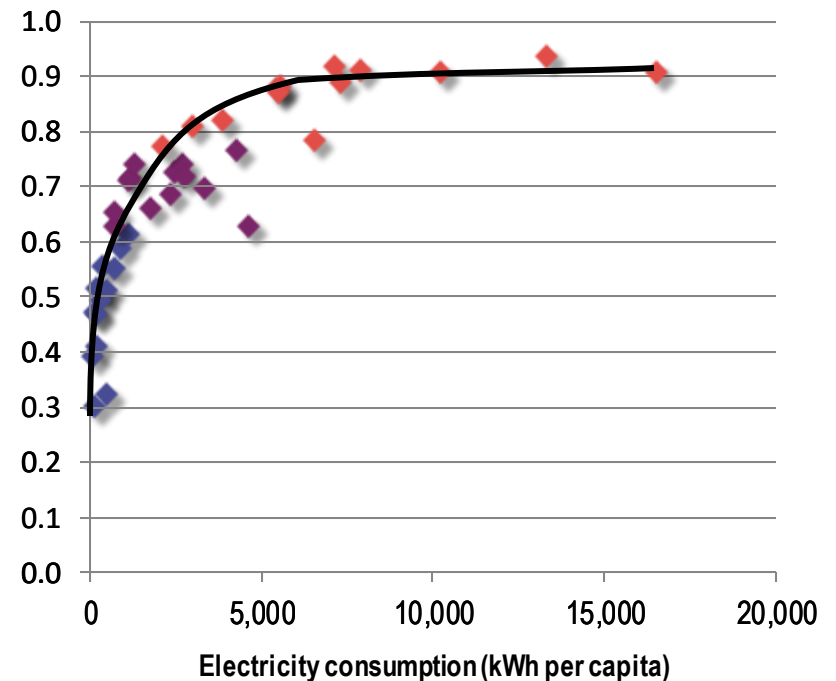
Energy is key to economic growth and human development

L'énergie est primordiale pour la croissance économique

Correlation between national GDP per capita and average electricity consumption
Corrélation entre PIB par habitant et la consommation moyenne d'électricité



Correlation between Human Development Index and average electricity consumption
Corrélation entre l'indice de développement humain et la consommation moyenne d'électricité



Low HDI Countries
 Medium HDI Countries
 High HDI Countries

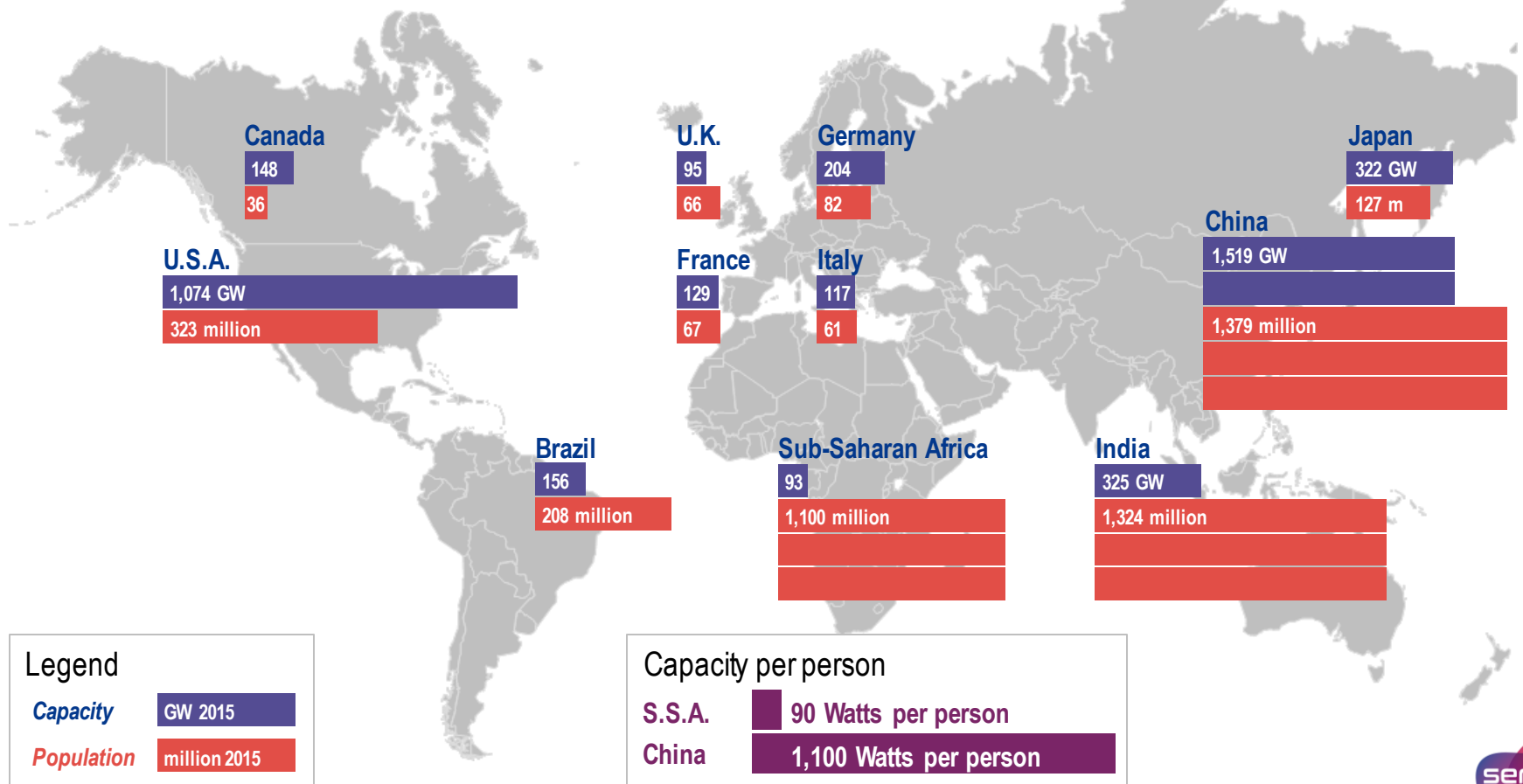


Africa has only 2% of the world's electricity

L'Afrique ne représente que 2% de l'électricité mondiale

Population and generation capacity of top ten global economies and Sub-Saharan Africa

Population et capacité de production des dix premières économies mondiales et de l'Afrique subsaharienne

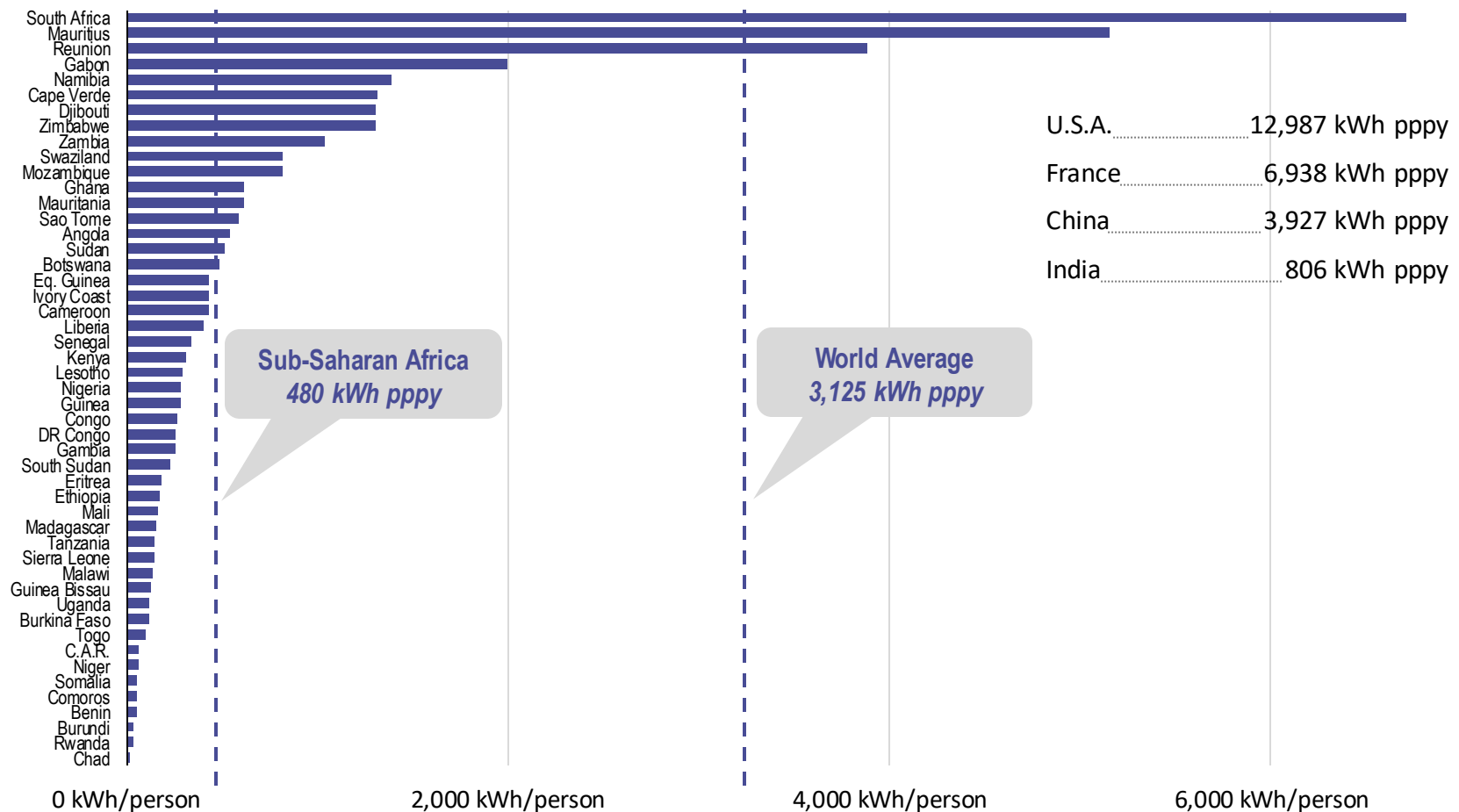


Consumption per capita in most African countries lags the world

La consommation par habitant dans la plupart des pays africains est à la traîne

Consumption of electricity per person per year

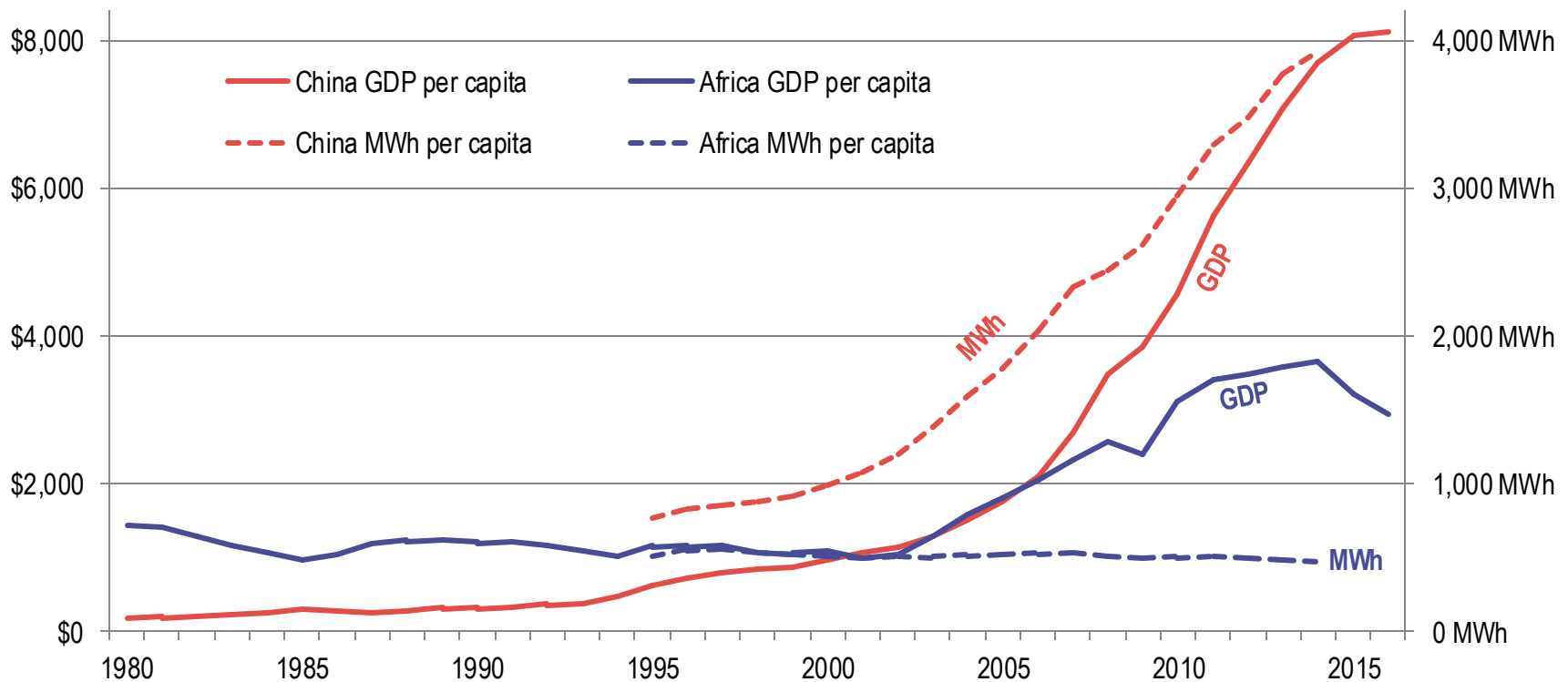
Consommation d'électricité par personne et par an



Africa once led China in GDP per capita and electricity per capita

L'Afrique devançait la Chine en termes de PIB par habitant et d'électricité par habitant

GDP per capita and MWh per capita for Africa and China
PIB par habitant et l'électricité par habitant pour L'Afrique et la Chine



Issues to consider in developing the electricity sector

Points à prendre en compte dans le développement du secteur de l'énergie

Lack of financing

Le manque de financement

The lack of adequate investment financing is by far the most urgent issue to be solved.

Le manque de financement adéquat des investissements est de loin le problème le plus urgent à résoudre

Shortage of skills

Le manque de compétences

The shortage of skills to implement large-scale projects

Le manque de compétences pour mettre en œuvre des projets à grande échelle

Long delays

Les longs retards

Long delays in the implementation of projects;

Les longs retards dans la réalisation des projets

Risk aversion

L'aversion au risque

Reluctance of the technical and financial partners to take risks

La réticence des partenaires techniques et financiers à prendre des risques

Growth in Foreign Direct Investment

Croissance dans les investissements étrangers directes

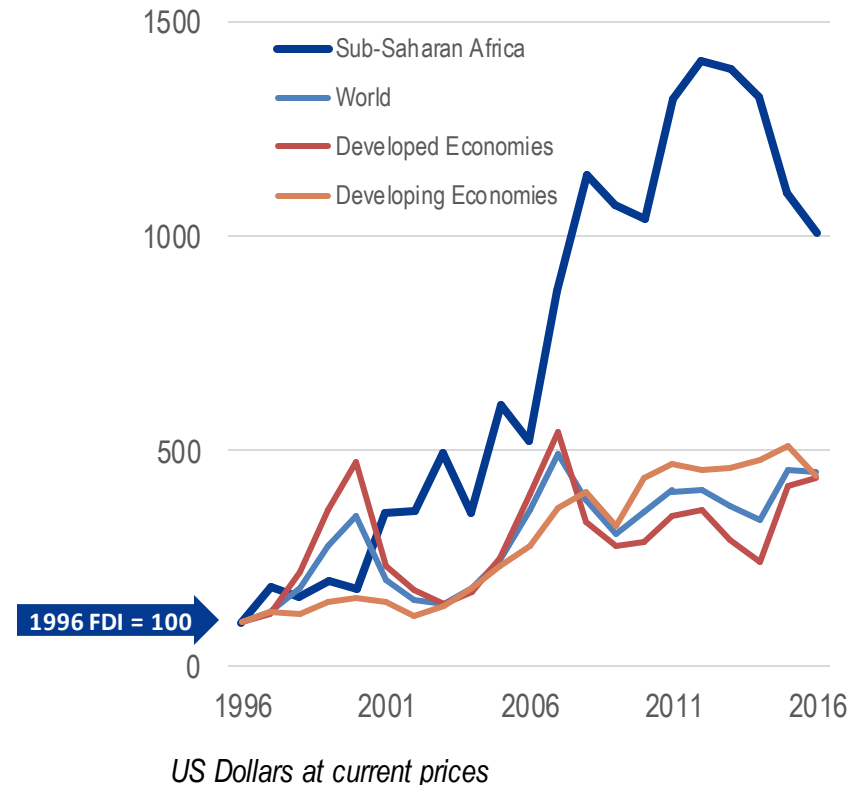
Significant investment opportunities in Africa

Opportunités d'investissement significatives en Afrique

- FDI has soared over the last decade
- Electricity sector needs 150,000 MW of new capacity
- Africa has immense fuel resources for generation
- Renewable energy generation potential is not even fractionally exploited

Growth in FDI inflows 1996-2016

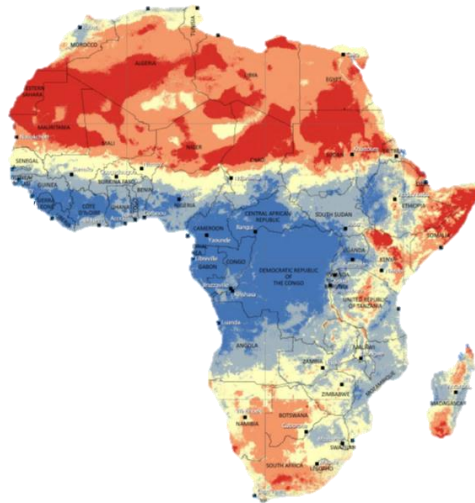
Croissance des entrées IDE 1996-2016



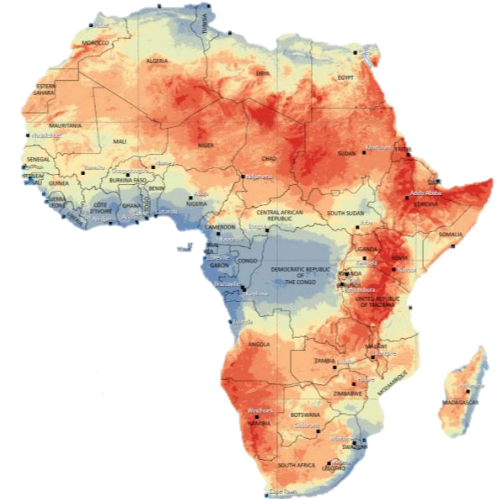
Africa has enormous renewable generation potential

L'Afrique a d'énormes potentiels en énergies renouvelables

Wind energy potential
Potentiel éolienne



Solar energy potential
Potentiel solaire



Hydroelectric potential
Potentiel hydroélectrique



Geothermal potential (East Africa)
Potentiel géothermique (Afrique de l'Est)

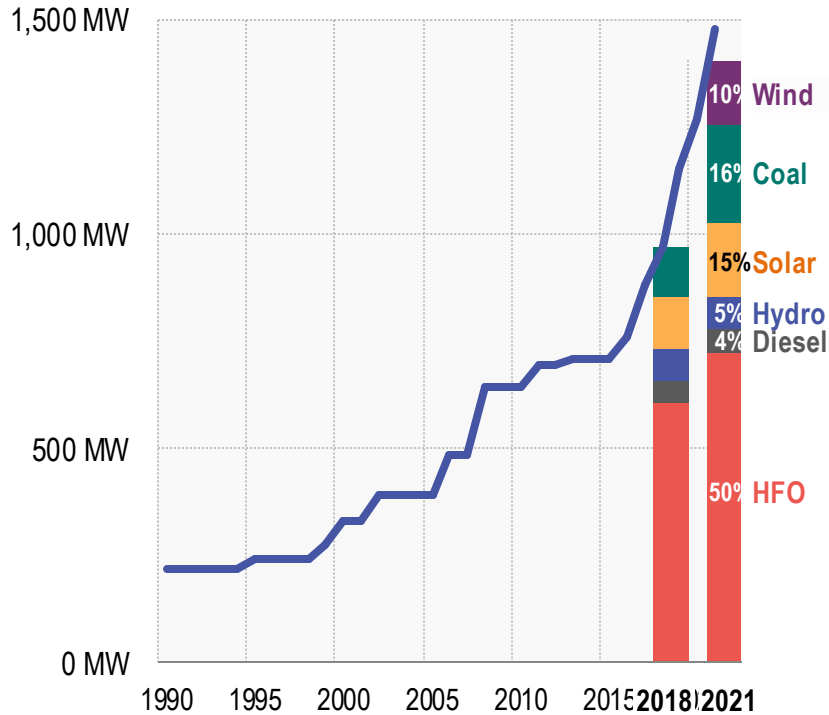


Growth in generation capacity in Senegal

Croissance de la capacité de production au Sénégal

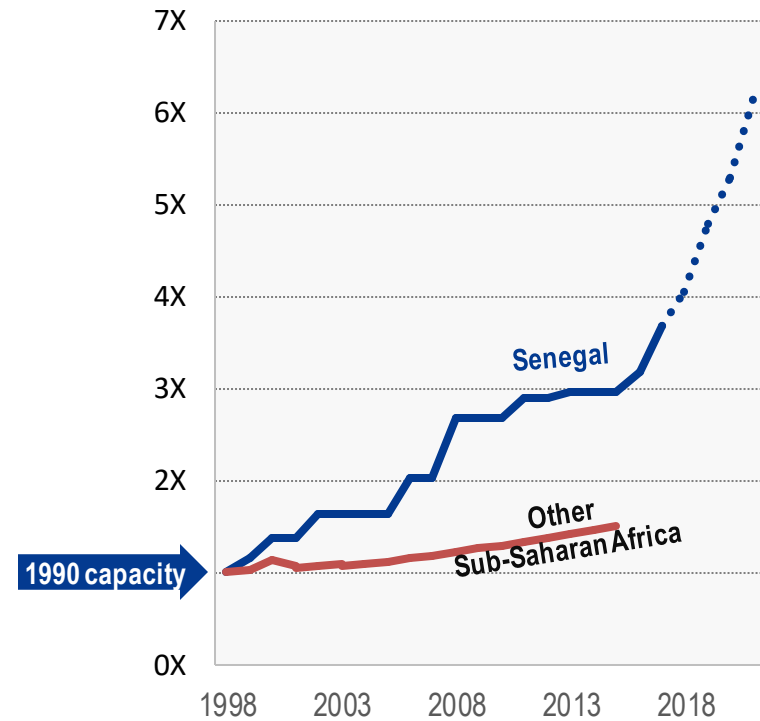
Baseload supports renewables

Production du base soutient les renouvelables



Multiplying generation capacity

Nous multiplions la capacité de production

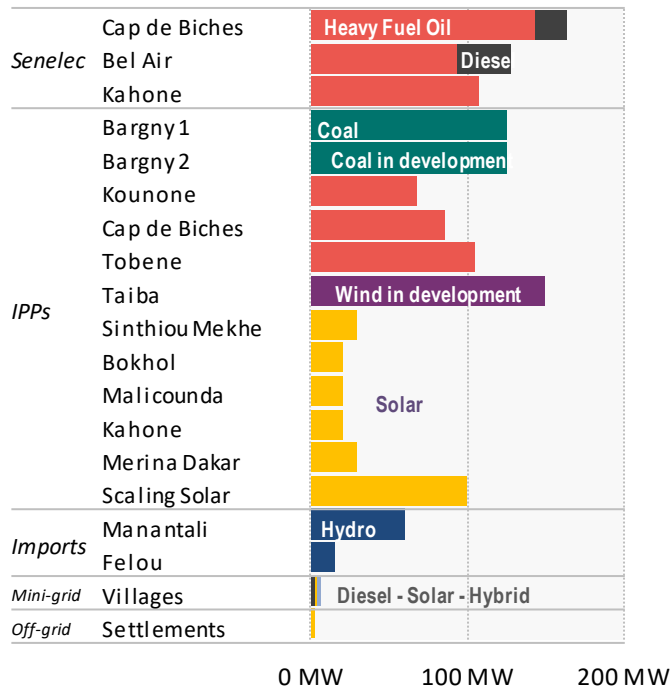


Mix of generation capacity in Senegal

Mixe énergétique au Sénégal

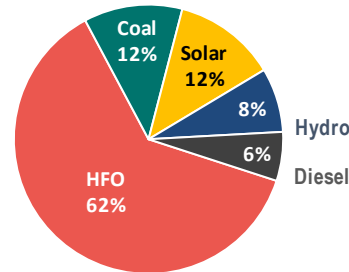
Mix of fuels

Mixe des combustibles



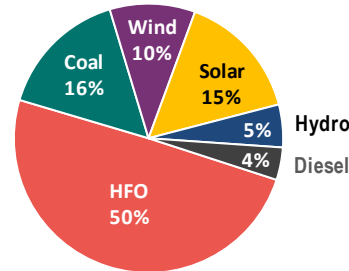
The current mix

Le mixe actuellement



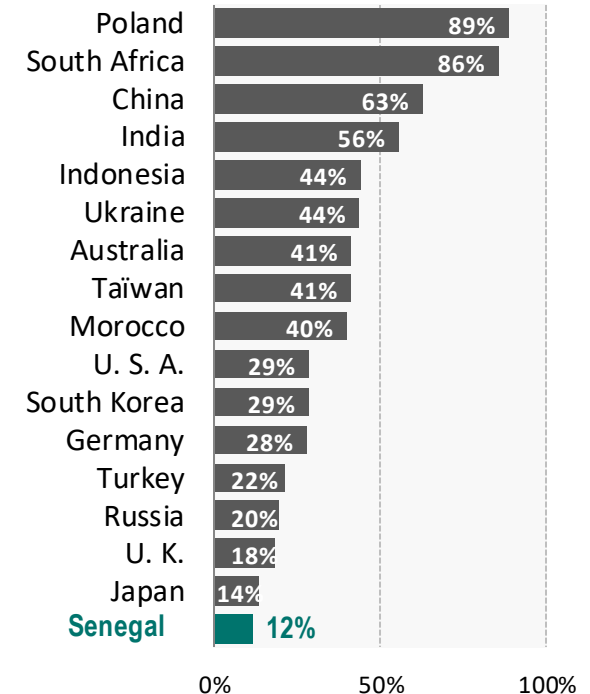
The mix in 2021

Le mixe en 2021



Coal as % of generation capacity

Charbon en % de la capacité



By adding efficient and cost-effective baseload generation using a mix of fuels, Senelec reduces the cost of electricity and facilitates the addition of more wind and solar generation capacity.

En ajoutant une production de base efficace et rentable utilisant une mixe des combustibles, la Senelec facilite l'ajout de plus de capacité de production d'énergie éolienne et solaire.



Key contributors for Growth in Generation Capacity in Senegal

Aspects primordiaux d'une croissance en capacité de production au Sénégal

Political stability

Stabilité politique

Political support

Soutien politique

Transparency

Transparence

Economic stability

Stabilité économique

Framework for investment

Cadre pour l'investissement

Realistic energy pricing

Tarification énergétique réaliste

Technical and financial partnerships

Partenariats techniques et financiers

Senegal's key strategic electricity goals

Les objectifs stratégiques principaux du Sénégal en matière d'énergie

Mix of fuels

Mixe des combustibles

We aim for a mix of fuels (solar, wind, hydro, coal, diesel and HFO) to reduce costs, minimise emissions, avoid overexposure to any one fuel or energy source.

Renewables

Renouvelables

Senegal's solar power plants (total capacity 100 MW), were all added within the last year and another 20 MW solar project and a 150 MW wind project are underway

Baseload

Production de base

Latest addition is the 125 MW Bargny coal-fired power plant, with a second 125 MW unit possibly following, and a 120 MW plant powered by HFO announced.

Domestic gas

Le gaz Sénégalais

When a large gas field off the north coast of Senegal comes into production (expected in the 2020s), we will start receiving sufficient gas to power a mid-sized power plant.

Electrification

Electrification

Full electrification targeted for 2025, with grid expansion, local diesel/solar "mini-grids" in low-populated areas, and individual solar installations with battery storage for remote settlements.

In conclusion

En conclusion

Electricity is vital

L'électricité est vital

Requires innovative and sustainable solutions

Il faut des solutions innovantes et pérennes

Requires a long-term view

Il faut d'une vision à long terme

Requires innovation in public policy

Il faut des politiques pour encourager l'innovation

The electricity sector is vital for the economy of our continent.

To overcome the constraints of a network dominated by aging thermal generation, dependent on oil, with high costs of production and pollution.

Infrastructure required over decades for production and related services requires significant investment; with an estimated required investment of 1.5% of global GDP for energy infrastructure needs.

To address security of supply, uncontrolled urbanization, climate change and sustainable generation.

Mouhamadou Makhtar Cissé

Mr Cissé has served as Director General of Senelec since June 2015.

Mr Cissé previously served for five years as the Director General of Customs of Senegal, during which time he also served for a time as Minister of Budget. He previously spent eight years with the Inspectorate General of State, and as Chief of Staff to the President of Senegal.

Before the Inspectorate General, he filled several roles at the Directorate General of Customs including Acting Chief of the Office of Legal Affairs and Litigation, Assistant to the General Administrator in the Directorate of Intelligence and Fraud Prevention, Regional Customs Auditor and Customs Inspector. For a decade he taught, part-time, the economics of customs duties and techniques of international trade. He has also served as Chief of Staff to the Minister of Fisheries.

Mr Cissé attended the national Ecole Nationale d'Administration, before which he began his career practicing law in Dakar.

Mr Cissé holds a Masters of Law in Business Law from the University Cheikh Anta Diop in Dakar, and a Masters in Political Science, Finance and Public Management. He was admitted to the Dakar Bar. Mr Cissé is a graduate of the National School of Administration and the academy Prytanée Militaire de Saint-Louis.

His distinctions include the Knight of the National Order of Merit and the Knight of the National Order of the Lion, the Medal of Honour of French Customs and the Medal of Honour of Senegalese Customs and a Certificate of Merit of the World Customs Organization. Under his leadership in 2012, the customs office received the United Nations Award for Public Service with respect to the GIE GAINDE 2000 automated trade clearing system. Most recently, business association Mouvement des Entreprises du Sénégal named Mr Cissé "Best Male Manager of 2016".

*MOUHAMADOU MAKHTAR CISSE, Directeur Général, Senelec, 28 rue Vincens, BP 93 Dakar, Sénégal
Tél: +221 33 839 30 02 e-mail: makhtar.cisse@senelec.sn*

